Product data sheet

HR472

Linear Low Density Polyethylene for rotational moulding and injection moulding

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reaching new frontiers

Sasol Polymers
Polyolefins Business

Sasol Polymers LLDPE: HR472 Density: 0.939 g/cm³ Melt index: 5.0g/10min

Features

- High rigidity
- Good impact strength
- Hexene copolymer

Applications

- Small to medium parts for rotomoulding
- Large parts for injection moulding
- Indoor articles

Additives

- Antioxidant

Material properties (typical values not to be construed as specifications)

	Value	Unit	Test method	Based on
MFI (190°C/2.16kg)	5.0	g/10min	PTM 058	ASTM D1238
Nominal density	0.939	g/cm³	PTM 002	ASTM D1505
Tensile strength at yield	20	MPa	PTM 006	ASTM D638 [1)]
Tensile strength at break	27	MPa	PTM 006	ASTM D638 [1)]
Elongation at break	922	%	PTM 006	ASTM D638 [1)]
Flexural modulus	684	MPa	PTM 008	ASTM D790
Shore D hardness	61.3	Shore D	PTM 087	ASTM D2240
Vicat softening temperature	119	°C	PTM 086	ASTM D1525

1) Crosshead speed 50mm/min

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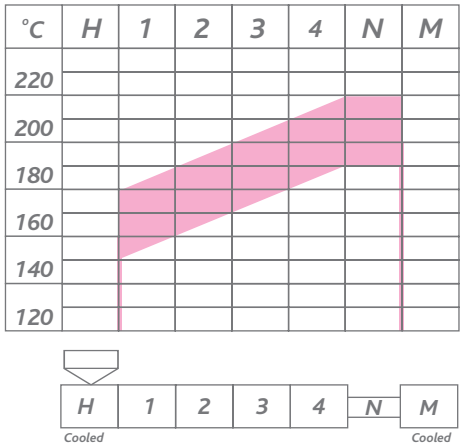
Typical processing conditions



Processing (Rotational Moulding)

An air temperature of 270°C to 300°C is recommended for rotational moulding of HR472. Temperatures above 300°C should be avoided as this would narrow the processing window considerably and could result in poor physical properties.

Processing (Injection Moulding)

HR472 has a medium melt viscosity making it unsuitable for moulds with long flow paths. Typical melt temperatures would be 200°C to 280°C. Parts can be demoulded at relatively high temperatures due to the material's high melting point.

Pigmentation for rotational moulded parts

For colouring purposes inorganic pigments should be added at the lowest possible concentration and mixed in using a high speed mixer or a tumble blender, prior to moulding. Pigment preparations should contain only minimal amounts of dispersants.

Packaging

Sasol Polymers polyolefin resins are supplied in pellet form packed in 25kg bags. Alternative packaging modes for polypropylene resins are available for selected grades.

Handling

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses and heat resistant gloves are suggested as a minimal precaution to prevent possible mechanical or thermal injuries to the eyes and skin. Fabrication areas should be ventilated to carry away fumes or vapours.

Conveying equipment should be designed to prevent accumulation of fines or dust particles that are contained in all polyolefin resins. These fines and dust particles can, under certain conditions, pose an explosion hazard. Sasol Polymers recommend the conveying system used:

- *be equipped with adequate filters*
- *is operated and maintained in such a manner to ensure no leaks develop*
- *that adequate grounding exists at all times*

Sasol Polymers further recommend that good housekeeping be practised throughout the manufacturing facility. Polymer pellets may pose a slippage hazard if spilled.

Storage

As ultraviolet light may cause a change in the material properties, all polyolefin resins should be protected from direct sunlight during storage. Under cool, dry, dark conditions Sasol Polymers polyolefin resins are expected to maintain their original material and processing properties for at least 18 months.